

iotaSciences
shaping fluids

isoCell

single cell cloning

Technical Data Sheet

Version 1.5

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1 . Introduction

The isoCell is a compact and lightweight benchtop system designed to automate single-cell cloning workflows and enable easy verification of monoclonality. It has low pressure and low shear, combined with optional heating, to ensure high cell viability.



Workflow Automation

The single-cell cloning workflow of plating, feeding and harvesting cells is automated by the integrated liquid handling system that delivers savings on pipetting time, reagents and removes human error.



Monoclonality

The isoCell plates single-cells into GRID chambers. These chambers do not suffer the optical edge effects associated with conventional culture plasticware. Therefore, single cells are visible immediately after plating throughout the chambers which enables easy verification of monoclonality.



Compact system

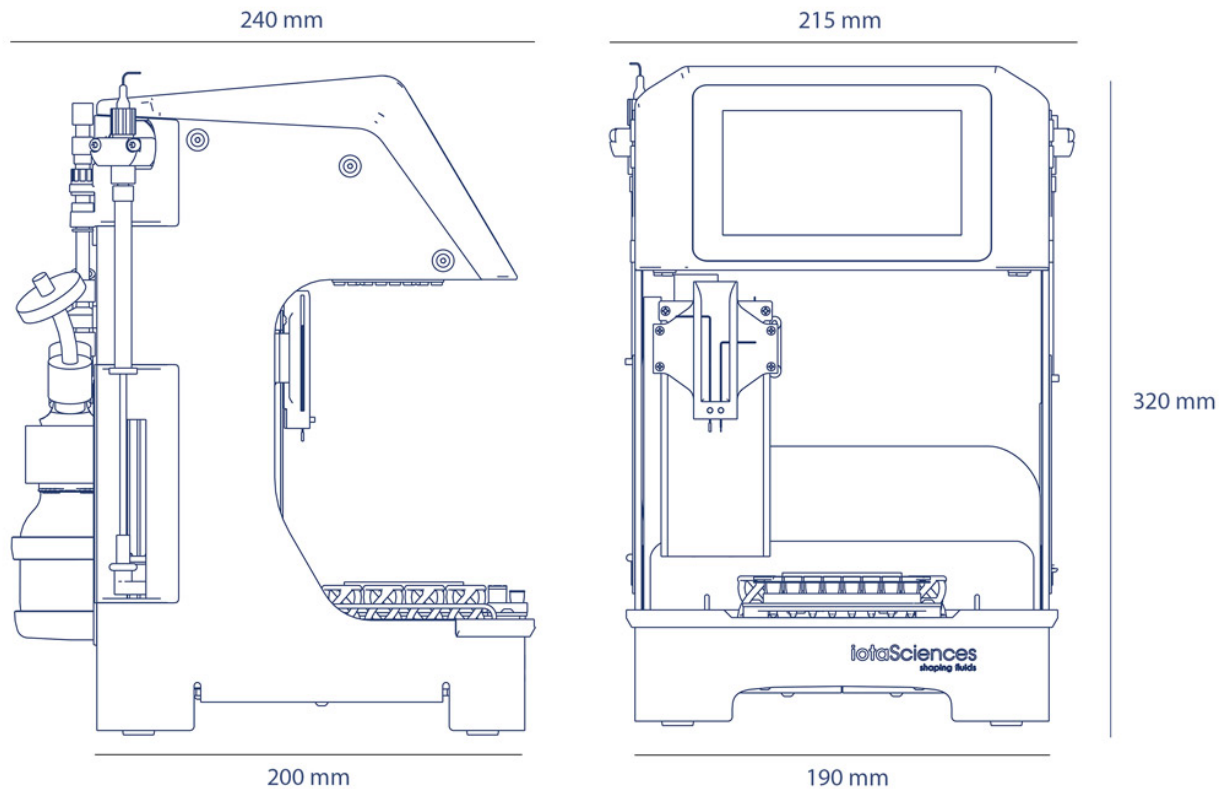
This small footprint and lightweight system easily fits inside your cell culture hood with room to spare. It is a standalone unit, with integrated touch screen, that provides an intuitive step-by-step guide through the cloning workflow.

2 . Specification Table

<p>Automated functionality</p>	<ul style="list-style-type: none"> • GRID generation in 60 mm round bottom dish. • Plates single-cells. • Media exchange (cell feeding). • Cell harvesting using conventional reagents. • Workflows for adhesion and suspension cells. • Compatible with commonly used reagents and stem cell coatings.
<p>GRID details</p>	<ul style="list-style-type: none"> • One GRID contains 256 cell-culture chambers in a single dish. • 3.24 mm² area per chamber. • Chamber volume < 1 µl.
<p>Compatibility with micro titre plates</p>	<ul style="list-style-type: none"> • Harvest colony into either Tissue Culture Treated (TCT) or PCR strips. • Compatible with 96-well micro titre plates.
<p>Cell dispensing accuracy and monoclonality</p>	<ul style="list-style-type: none"> • Up to 94 single cell chambers per dish (out of 256)*. • Easy verification of monoclonality using any inverted cell culture microscope with 4x/10x objectives. <p style="text-align: right;"><small>*Limited by Poisson distribution</small></p>
<p>Other system features</p>	<ul style="list-style-type: none"> • Nanolitre fluid handling system. • Auto-calibration and auto-levelling. • Heated bed for improved cell health. • UV light and ethanol resistant. • Rapid exchange of wetted parts. • Automated startup, shutdown and maintenance routines.

<p>Software and user interface</p>	<ul style="list-style-type: none"> • Capacitive touch interface (stylus included). • Intuitive GUI guides user through their cloning process. • Up to 36 users with nine colour coded dishes in parallel per user. • USB port for easy software updates. • PC updating (minimum) requirements: Windows 10. • Language: English.
<p>Consumables</p>	<ul style="list-style-type: none"> • 18 colour coded dishes (TC - treated or non-treated). • Choose from 8 strip PCR tubes or 8 TCT flat strips (96 well plate format). • Eppendorf tubes. • FC40^{STAR} proprietary fluid.
<p>Operating requirements</p>	<ul style="list-style-type: none"> • Humidity range: 40% to 60% • Input voltage range: 100-240V AC, 50/60Hz, 1.3A • Output 24V DC, 3.75A, MAX 90W • Temperature range: 16 °C - 35 °C 60 °F - 95 °F
<p>Mechanical characteristics</p>	<ul style="list-style-type: none"> • Height 320 mm (12.6") • Width 216 mm (8.5") • Depth 241 mm (9.5") • Mass 4.3 kg (9 lb 8 oz)

2.1. Product Schematic



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